

Master Record Number: FS2291

Title/Pay Plan/Series/Grade: Civil Engineer, GS-0810-11

FLSA Code: -Exempt

INTRODUCTION

Serves as a civil engineer on a Forest Service unit performing a variety of duties requiring professional civil engineering expertise.

MAJOR DUTIES

Provides professional engineering input into the interdisciplinary planning process for natural resource development activities involving engineering projects.

Develops and modifies civil engineering plans and specifications for new construction or to improve utility, quality, appropriateness, and appearance of construction. Prepares original designs and preliminary and final layouts. Such projects may include road design, small bridges, retaining walls, major drainage structures, erosion control features, buildings, towers, equipment shops and yards, small dams and reservoirs, and recreation sites, or other comparable structures. Evaluates design objectives, identifies economic and efficient procedures. Develops design, coordinating with other engineers to ensure that all technical areas are covered. Prepares or supervises preparation of special design specifications, cost estimates, and complete design package.

Prepares or reviews Environmental Analysis, Environmental Impact Statements, and special reports with regard to new or improved engineering construction. Coordinates with other resource area specialists to complete environmental documents and clearances.

Using aerial photographs, topographic and geological maps, knowledge of soil mechanics, and on-the-ground reconnaissance, plans transportation systems on large areas of land. Analyzes existing routes for suitability of various road or trail management alternatives. Reviews on-the-ground feasibility layout of transportation planning and reviews and certifies adequacy of all road locations made.

Is responsible for contract compliance on assigned projects. Reviews proposed construction changes and modifications, recommending major changes to superior to ensure the safety of all users. Supervises inspections of all road construction work, periodically making personal inspections to ensure all are maintained to the original standard of construction and to ensure compliance with safety, health and regulatory requirements. Interprets Agency policy and contracts for contractor, and resolves problems relating to plans, specifications, materials, reports, etc.

Reviews plans and specifications to determine construction practicability and recommends modifications to improve utility, quality, and appearance. Serves as Engineering Representative (ER) or Contracting Officer's Representative (COR) providing technical

advice, recommendations and suitable alternatives to the Contracting Officer and Forest Officials. Participate in pre construction meetings to resolve construction problems that may be of unusual difficulty and complexity. Confers with contractor's representatives about improvement or adoption of construction practices and procedures. Oversees the development project plans and specifications prior to contract advertisement to ensure compliance with environmental requirements, determine practicability from a construction standpoint, whether physical obstructions or other construction difficulties have been considered or if materials specified are readily available. Authorizes changes that do not modify the designer's intent and do not result in contract time or cost changes. Works closely with the Contracting Officer in obtaining authorization for changes to the requirements of the contract.

Develops programs for maintenance of facilities with responsibility for a broad range of actions, including determination of necessity for, feasibility of, and extent of work required; development of project or program proposals to obtain budget approval; preparation of design or, and accomplishment of repair and modification work.

FACTOR STATEMENTS

Factor 1. Knowledge Required by the Position Factor Level 1-7 1250 Points

Knowledge of professional civil engineering concepts, principles, practices to carry out a variety of complete engineering projects.

Knowledge of aerial photography and interpretation techniques as they relate to transportation planning to identify road location control points.

Knowledge and skill of design principles and techniques sufficient to design bridges, major drainage structures, retaining walls, water and sewage systems, foundation, and roads.

Knowledge of construction practices, methods, techniques, costs, materials, and equipment.

Knowledge of safety regulations, potential hazards and precautions sufficient to enable the engineer to advise contractor and others on safety matters and to make decisions about safety conditions.

Factor 2. Supervisory Controls Factor Level 2-4 450 Points

Supervisor assigns work in the form of individual projects, including overall responsibility and authority.

Incumbent independently plans own work, coordinates with other engineers and subject matter specialists, resolves problems and carries assignments through to completion.

Work is accepted as technically accurate but is reviewed in terms of feasibility, compatibility with other work, or effectiveness in achieving objectives.

Factor 3. Guidelines**Factor Level 3-3****275 Points**

Guidelines include various Agency standards, engineering manuals, technical journals, Agency regulations, and plans and specifications.

Incumbent uses initiative and judgment in selecting, adopting and applying pertinent guidelines. Alternative approaches or solutions may require substantial adaptation of standardized guides and criteria.

Factor 4. Complexity**Factor Level 4-4****225 Points**

Assignments involve a variety of design, transportation planning, and construction projects of differing requirements. Assignments are of a conventional nature with a general indication of expected results. The incumbent must identify the limits of the problems involved, the kinds of data needed, and the criteria and techniques to be applied in accomplishing the work. The combination of complex features in assignments generally involves the application of standard engineering practices to new situations, relating new work situations to precedent ones, and modifying or adapting standard guidelines. The incumbent recognizes possible new directions of approach and revises or refines techniques and methods for obtaining effective results.

Factor 5. Scope and Effect**Factor Level 5-3****150 Points**

Incumbent is technically responsible for complete design, construction, transportation planning and/or maintenance projects which will be safe, functionally effective activities.

The work affects the timely and satisfactory accomplishment of engineering project work on the unit.

Factor 6. Personal Contacts**Factor Level 6-3**

Contacts are with engineers, architects, geologists, technicians, and other staff specialists within the unit, contractors, and occasionally engineers from other organizations.

Factor 7. Purpose of Contacts**Factor Level 7-c****180 Points**

Contacts are to obtain and provide information, resolve specific design, construction and transportation planning problems, and develop data on which to base recommendations and decisions. Contacts may be made to persuade and influence others when there are conflicting interests and opinions about technical alternatives.

Factor 8. Physical Demands**Factor Level 8-2****20 Points**

Work is both sedentary and physically strenuous. Work may require long periods of standing, walking on rough terrain and climbing steep slopes.

Factor 9. Work Environment**Factor Level 9-2****20 Points**

Work is performed in the office and field. Field work involves exposure to dust, extreme temperatures, hazards of construction activity, and risks from overhanging branches and walking on steep, uneven terrain.

Total Points: 2570**Points Range: 2355-2750= GS-11****Classification Standard Used:**

Professional Work in the Engineering and Architecture Group, 0800 November 2008

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Civil Engineer, GS-0810-11, FS-SPD #N5029, dated 7/18/1986.

Name of classification Delegate: Sheila Turbinton**Date Classified:** May 11, 2012